

What is claimed is:

1. A lens drive apparatus having a movable section which is equipped with a plurality of either drive coils or magnetic field means for moving a mounted lens to an optical axis direction and a moving direction orthogonal to said optical axis direction and a fixed section for supporting said movable section and having either magnetic field means for said drive coils or drive coils for said magnetic field means, wherein:  
an x-coordinate value of a center of gravity G and an  
10 x-coordinate value of a driving center Df do not accord with each other, provided that a z-axis is set to pass through the center of gravity of the movable section in a direction parallel to the optical axis, a y-axis is set in said moving direction of the lens, an x-axis is set in a direction orthogonal to  
15 the z-axis and the y-axis, the center of gravity of said movable section is G, and a driving center of the movable section in the z-axis direction is Df.
2. The lens drive apparatus as cited in Claim 1, wherein:  
20 z-coordinate value of the center of gravity G and z-coordinate value of the driving center Dt are approximately equal, provided that a driving center of said movable section to y-axis direction is defined as Dt.
- 25 3. The lens drive apparatus as cited in Claim 1, wherein:  
a principal point of said lens and the center of gravity G of said movable section approximately accord with each other.
4. The lens drive apparatus as cited in Claim 1, wherein:

said plurality of drive coils includes drive coils for the lens in the optical axis direction and drive coils for the lens in the moving direction; and

5        respective said magnetic field means provided to each of said drive coils for the lens in the optical axis direction and drive coils for the lens in the moving direction are arranged across said lens.

5.        An optical head apparatus having an optical system  
10        including an objective lens and a light source for reading and/or recording of an optical recording medium, a movable section which is equipped with a plurality of either drive coils or magnetic field means for moving said objective lens to an optical axis direction and a moving direction orthogonal  
15        to said optical axis direction and a fixed section for supporting said movable section and having either magnetic field means for said drive coils or drive coils for said magnetic field means, wherein:

20        an x-coordinate value of a center of gravity G and an x-coordinate value of a driving center Df do not accord with each other, provided that a z-axis is set to pass through the center of gravity of the movable section in a direction parallel to the optical axis, a y-axis is set in said moving direction of the objective lens, an x-axis is set in a direction orthogonal  
25        to the z-axis and the y-axis, the center of gravity of said movable section is G, and a driving center of the movable section in the z-axis direction is Df.

6.        The optical head apparatus as cited in claim 5, wherein:  
30        z-coordinate value of the center of gravity G and z-coordinate value of the driving center Dt are approximately

equal, provided that a driving center of said movable section to y-axis direction is defined as  $D_t$ .

7. The optical head apparatus as cited in claim 5, wherein:  
5 a principal point of said lens and the center of gravity G of said movable section approximately accord with each other.

8. The optical head apparatus as cited in claim 5, wherein:  
said plurality of drive coils includes drive coils for  
10 the objective lens in the optical axis direction and drive coils for the objective lens in the moving direction; and  
respective said magnetic field means provided to each of said drive coils for the lens in the optical axis direction and drive coils for the objective lens in the moving direction  
15 are arranged across said objective lens.

9. An optical disk drive apparatus having an optical system including an objective lens and a light source for reading and/or recording of an optical recording medium rotated by  
20 rotating means, a movable section which is equipped with either focus coil and tracking coil or focus magnetic field means and tracking magnetic field means for moving said objective lens to an optical axis direction and a tracking direction orthogonal to said optical axis direction and a fixed section  
25 for supporting said movable section and having either focus magnetic field means and tracking magnetic field means for said focus coil and said tracking coil or focus coil and tracking coil for said focus magnetic field means and said tracking magnetic field means, wherein:

30 an x-coordinate value of a center of gravity G and an x-coordinate value of a driving center  $D_f$  do not accord with

each other, provided that a z-axis is set to pass through the center of gravity of the movable section in a direction parallel to the optical axis, a y-axis is set in said moving direction of the objective lens, an x-axis is set in a direction orthogonal to the z-axis and the y-axis, the center of gravity of said movable section is G, and a driving center of the movable section in the z-axis direction is Df.

10. The optical disk drive apparatus as cited in Claim 9, wherein:

z-coordinate value of the center of gravity G and z-coordinate value of the driving center Dt are approximately equal, provided that a driving center of said movable section to y-axis direction is defined as Dt.

11. The optical disk drive apparatus as cited in Claim 9, wherein:

a principal point of said lens and the center of gravity G of said movable section approximately accord with each other.

12. The optical disk drive apparatus as cited in Claim 9, wherein:

said focus coil and tracking coil, and said focus magnetic field means and said tracking magnetic field means provided for said focus coil and said tracking are arranged across said objective lens.